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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/319,460	08/09/1999	PHILIP MACRIDIS	2918.81274	3123

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BANNER & WITCOFF
1001 G STREET NW
ELEVENTH FLOOR
WASHINGTON, DC 200014597

EXAMINER
PEREZ GUTIERREZ, RAFAEL

ART UNIT	PAPER NUMBER
2683	11

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/319,460	Macridis et al.
Examiner	**Art Unit**
Rafael Perez-Gutierrez	2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jul 17, 2002* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above, claim(s) *8-16* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-7* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *5-7*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. This Action is in response to Applicant's response to restriction requirement filed on July 17, 2002. **Claims 1-7** are now pending in the present application. **This action is made NON-FINAL.**

Election/Restriction

2. Applicant's election *without* traverse of **claims 1-7** in Paper No. 10 is acknowledged.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statements submitted on November 1, 1999 and on May 1, 2000 have been considered by the Examiner and made of record in the application file.

Specification

5. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: --**METHOD AND APPARATUS FOR ALLOCATING TIME SLOTS WITHIN A FRAME OF A TDMA FREQUENCY CHANNEL**--.

Claim Objections

7. **Claims 1 and 4-6** are objected to because of the following informalities:

a) On **line 6** of **claims 1 and 5**, insert --plurality of-- after "said";

b) On **line 8** of **claims 1 and 5**, insert --real-time-- before "calls";

c) On **line 9** of **claim 1**, replace "the or each said real-time call" with --each of said real-time calls-- after "to";

d) On **line 2** of **claim 4**, replace "time-slots" with --time slots-- after "more";

e) On **line 2** of **claims 4 and 6**, replace "said non-real-time call" with --of said non real-time calls-- after "each";

f) On **line 3** of **claims 4 and 6,** replace "the or each real-time call," with --each of said

real-time calls,-- after "to";

g) On **line 4** of **claim 4**, replace both occurrences of "non-real-time" with --non real-time--;

h) On **line 5** of **claim 4** and on **lines 5 and 6** of **claim 6**, replace "that non-real-time" with --said non real-time-- after "for";

i) On **line 9** of **claim 1**, delete "the or" after "to"; and

j) On **lines 4 and 5** of **claim 6**, replace "non-real-time" with --non real-time-- before "call".

Note: The above suggestions are made to further clarify the language in the claims as well as to provide consistency in the spelling among recited terms and the claims were examined as best understood by the Examiner. If Applicant believe that the scope of the claims is being changed by these suggestions, Applicant is welcome to provide any suggestions as to how the language in the claims should be clarified.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be

negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Grube et al. (U.S. Patent # 5,583,869)** in view of **Kobayashi et al. (U.S. Patent # 5,719,859)**.

Consider **claims 1 and 5**, Grube et al. clearly show and disclose a method and apparatus for allocating (assigning) time slots within a frame of a TDMA frequency channel 105, 111 to a plurality of communications (calls) between a base station 103 (figure 1) and one or more

communication units 101, 102 (mobile terminals) (figure 1), said communications (calls) being either data messages (real-time calls) or voice messages (non real-time calls) and comprising at least one data message (real-time call) requiring a plurality of time slots per frame (figure 1, column 1 lines 1-61, and column 2 line 56 - column 3 line 11), the method and corresponding apparatus comprising a central controller 104 (means for determining and allocating) (figure 1) for determining which of said communications (calls) are data messages (real-time calls) requiring allocation of a plurality of time slots per frame (figure 2 steps 205 and 206, column 3 lines 27-31 and 54-60, and column 4 line 65 - column 5 line 13) and for allocating said time slots in said frame to said data messages (real-time calls) (figure 2 steps 207 and 208 and column 5 lines 14-40).

However, Grube et al. do not specifically disclose that the plurality of time slots allocated to each of said data messages (real-time calls) are mutually spaced apart in said frame.

Kobayashi et al. clearly show and disclose an apparatus and method for assigning a plurality of time slots in a frame of a TDMA frequency channel to a data message (real-time call) (abstract, figures 12-15, and column 7 line 24 - column 9 line 8). Although, Kobayashi et al. disclose and show, as an example, that the plurality of time slots allocated (i.e., 1, 2, 5, and 6) to said data message (real-time call) are adjacent to each other (figures 12 and 14 and column 8 lines 63-65), it would have been clearly obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the teachings of Kobayashi et al. to allocated time slots 4 and 8 instead of time slots 2 and 6 since these time slots are also available for the data

message (real-time call) and they are spaced apart from previously assigned time slots 1 and 5 (figure 12 and column 8 lines 48-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Grube et al. with the modified teachings of Kobayashi et al. in order to also provide the choice to the central controller 104 of allocating time slots that are spaced apart in the frame of the TDMA frequency channel as suggested by Kobayashi et al. in order to, for example, keep the transmission delay of the communication to a minimum (Grube et al.; column 1 lines 35-50).

Consider **claim 2**, and **as applied to claim 1 above**, Grube et al. further disclose that the TDMA frequency channel is a forward channel for communication from said base station 103 to said one or more communication units 101, 102 (mobile terminals) and that call requests (signals) are transmitted in said time slots in accordance with the allocation of said time slots (column 3 lines 33-60).

Consider **claim 3**, and **as applied to claim 1 above**, Grube et al. also disclose that the TDMA frequency channel is a return channel for communication from said one or more communication units 101, 102 (mobile terminals) to said base station 103, said base station 103 transmitting to said one or more communication units 101, 102 (mobile terminals) information related to allocation of said time slots in the return channel, such that call requests (signals) are transmitted by said one or more communication units 101, 102 (mobile terminals) in said allocated time slots of the return channel (column 3 lines 33-60).

Consider **claims 4 and 6**, and **as applied to claims 1-3 and 5 above**, Grube et al. further disclose allocating one or more time slots to each of said voice messages (non real-time calls) from the time slots in said frame not allocated to each of said data messages (real-time calls), wherein the number of said time slots is variable according to a current bandwidth allocation (figure 5 and column 7 line 50 - column 8 line 27).

Consider **claim 7**, and **as applied to claims 2 and 5 or 6 above**, Grube et al. clearly disclose and show that the base station 103 includes a plurality of transceivers (means for transmitting) for transmitting call requests (signals) in said time slots in accordance with the allocation of said time slots (figure 1 and column 3 lines 33-60).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Dail et al. (U.S. Patent # 5,570,355) disclose a method and apparatus enabling synchronous transfer mode and packet mode access for multiple services on a broadband communication network;

Crisler et al. (U.S. Patent # 5,594,738) disclose a time slot allocation method;

Raith et al. (U.S. Patent # 5,729,531) disclose bandwidth allocation;

Scholefield et al. (U.S. Patent #'s 5,742,592 and 5,752,193) disclose a method for

communicating data in a wireless communication system;

Kondo (U.S. Patent # 5,748,624) discloses a method of time-slot allocation in a TDMA communication system;

Hamalainen et al. (U.S. Patent #'s 6,072,787 and 6,148,209) disclose a high-speed data transmission in a digital mobile communication system;

Bishop, Jr. et al. (U.S. Patent # 6,078,577) disclose a system and method for packet data;

Hamalainen et al. (U.S. Patent Application Publication # 2002/0057667 A1) disclose a data transmission method in a TDMA mobile communication system.

11. Any response to this Office Action should be **faxed to** (703) 872-9314 **or mailed to**:

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Washington, D.C. 20231

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-

8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, William G. Trost IV can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.

Rafael Perez-Gutierrez
R.P.G./rpg RAFAEL PEREZ-GUTIERREZ
PATENT EXAMINER

September 19, 2002

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600